

§21.4

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this part is unsafe because of a manufacturing or design data defect, the holder of the production approval for that product or article must, upon request of the FAA, report to the FAA the results of its investigation and any action taken or proposed by the holder of that production approval to correct that defect. If action is required to correct the defect in an existing product or article, the holder of that production approval must send the data necessary for issuing an appropriate airworthiness directive to the FAA.

[Amdt. 21–36, 35 FR 18187, Nov. 28, 1970, as amended by Amdt. 21–37, 35 FR 18450, Dec. 4, 1970; Amdt. 21–50, 45 FR 38346, June 9, 1980; Amdt. 21–67, 54 FR 39291, Sept. 25, 1989; Amdt. 21–92, 74 FR 53385, Oct. 16, 2009; Doc. No. FAA–2018–0119, Amdt. 21–101, 83 FR 9169, Mar. 5, 2018]

§21.4 ETOPS reporting requirements.

(a) *Early ETOPS: reporting, tracking, and resolving problems.* The holder of a type certificate for an airplane-engine combination approved using the Early ETOPS method specified in part 25, Appendix K, of this chapter must use a system for reporting, tracking, and resolving each problem resulting in one of the occurrences specified in paragraph (a)(6) of this section.

(1) The system must identify how the type certificate holder will promptly identify problems, report them to the

responsible Aircraft Certification Service office, and propose a solution to the FAA to resolve each problem. A proposed solution must consist of—

- (i) A change in the airplane or engine type design;
- (ii) A change in a manufacturing process;
- (iii) A change in an operating or maintenance procedure; or
- (iv) Any other solution acceptable to the FAA.

(2) For an airplane with more than two engines, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination.

(3) For two-engine airplanes, the system must be in place for the first 250,000 world fleet engine-hours for the approved airplane-engine combination and after that until—

- (i) The world fleet 12-month rolling average IFSD rate is at or below the rate required by paragraph (b)(2) of this section; and
- (ii) The FAA determines that the rate is stable.

(4) For an airplane-engine combination that is a derivative of an airplane-engine combination previously approved for ETOPS, the system need only address those problems specified in the following table, provided the type certificate holder obtains prior authorization from the FAA:

If the change does not require a new airplane type certificate and . . .	Then the Problem Tracking and Resolution System must address . . .
(i) Requires a new engine type certificate	All problems applicable to the new engine installation, and for the remainder of the airplane, problems in changed systems only.
(ii) Does not require a new engine type certificate	Problems in changed systems only.

(5) The type certificate holder must identify the sources and content of data that it will use for its system. The data must be adequate to evaluate the specific cause of any in-service problem reportable under this section or §21.3(c) that could affect the safety of ETOPS.

(6) In implementing this system, the type certificate holder must report the following occurrences:

- (i) IFSDs, except planned IFSDs performed for flight training.
- (ii) For two-engine airplanes, IFSD rates.

(iii) Inability to control an engine or obtain desired thrust or power.

(iv) Precautionary thrust or power reductions.

(v) Degraded ability to start an engine in flight.

(vi) Inadvertent fuel loss or unavailability, or uncorrectable fuel imbalance in flight.

(vii) Turn backs or diversions for failures, malfunctions, or defects associated with an ETOPS group 1 significant system.

(viii) Loss of any power source for an ETOPS group 1 significant system, including any power source designed to provide backup power for that system.

(ix) Any event that would jeopardize the safe flight and landing of the airplane on an ETOPS flight.

(x) Any unscheduled engine removal for a condition that could result in one of the reportable occurrences listed in this paragraph.

(b) *Reliability of two-engine airplanes—*

(1) *Reporting of two-engine airplane in-service reliability.* The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must report monthly to their respective Aircraft Certification Service office on the reliability of the world fleet of those airplanes and engines. The report provided by both the airplane and engine type certificate holders must address each airplane-engine combination approved for ETOPS. The FAA may approve quarterly reporting if the airplane-engine combination demonstrates an IFSD rate at or below those specified in paragraph (b)(2) of this section for a period acceptable to the FAA. This reporting may be combined with the reporting required by § 21.3. The responsible type certificate holder must investigate any cause of an IFSD resulting from an occurrence attributable to the design of its product and report the results of that investigation to its responsible Aircraft Certification Service office. Reporting must include:

(i) Engine IFSDs, except planned IFSDs performed for flight training.

(ii) The world fleet 12-month rolling average IFSD rates for all causes, except planned IFSDs performed for flight training.

(iii) ETOPS fleet utilization, including a list of operators, their ETOPS diversion time authority, flight hours, and cycles.

(2) *World fleet IFSD rate for two-engine airplanes.* The holder of a type certificate for an airplane approved for ETOPS and the holder of a type certificate for an engine installed on an airplane approved for ETOPS must issue service information to the operators of those airplanes and engines, as appro-

priate, to maintain the world fleet 12-month rolling average IFSD rate at or below the following levels:

(i) A rate of 0.05 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 120-minute ETOPS. When all ETOPS operators have complied with the corrective actions required in the configuration, maintenance and procedures (CMP) document as a condition for ETOPS approval, the rate to be maintained is at or below 0.02 per 1,000 world-fleet engine-hours.

(ii) A rate of 0.02 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for up to and including 180-minute ETOPS, including airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of part 121 of this chapter.

(iii) A rate of 0.01 per 1,000 world-fleet engine-hours for an airplane-engine combination approved for ETOPS beyond 180 minutes, excluding airplane-engine combinations approved for 207-minute ETOPS in the North Pacific operating area under appendix P, section I, paragraph (h), of part 121 of this chapter.

[Doc. No. FAA-2002-6717, 72 FR 1872, Jan. 16, 2007, as amended by Doc. No. FAA-2018-0119, Amdt. 21-101, 83 FR 9169, Mar. 5, 2018]

§ 21.5 Airplane or Rotorcraft Flight Manual.

(a) With each airplane or rotorcraft not type certificated with an Airplane or Rotorcraft Flight Manual and having no flight time before March 1, 1979, the holder of a type certificate (including amended or supplemental type certificates) or the licensee of a type certificate must make available to the owner at the time of delivery of the aircraft a current approved Airplane or Rotorcraft Flight Manual.

(b) The Airplane or Rotorcraft Flight Manual required by paragraph (a) of this section must contain the following information:

(1) The operating limitations and information required to be furnished in an Airplane or Rotorcraft Flight Manual or in manual material, markings,